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Paper Session II-A - Commercial Space Launch: the Future's Not What it Used to Be

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Commercial Space Launch: The Future's Not What It Used To Be

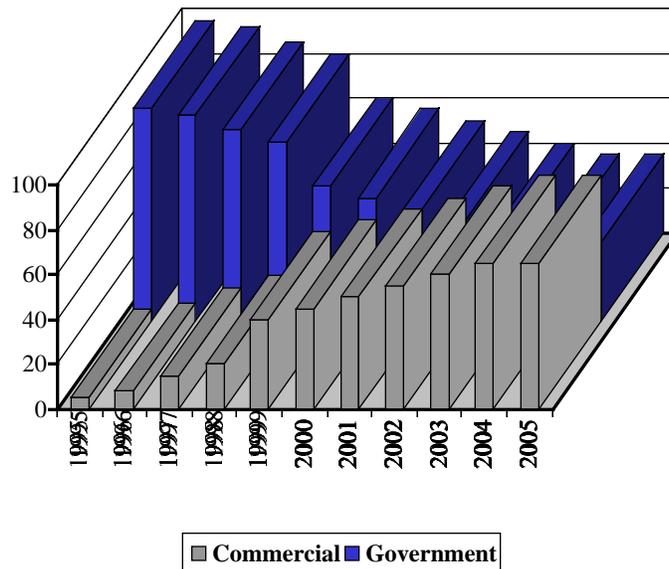
By

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Our industry has experienced a substantial increase in the development of commercially sponsored space applications ranging from remote sensing to the exponential growth in the telecommunications sector. These commercial applications are central to the evolution taking place within the Space Launch Industry, which has become an extension of our growing global economy. As forecasted, commercial programs now represent a greater percentage of the total launches from our primary ranges, and as early as next year, commercial launch revenues will approach or exceed those produced by government launches.

The pressure to commercialize space, combined with the rapid reduction in government spending, is forcing the industry to operate under significantly different parameters. The ability to compete globally, as we have seen in so many markets will force vehicle, satellite, and facility providers to approach their business from a new perspective. Commercial competition fosters imagination, pushes for increasingly lower prices and improved efficiencies. The future of our industry will require a much broader business perspective and will be impacted more by global economic issues than by national political imperatives.



Global Competitive Factors

When solutions are not readily available or are cost prohibitive, US based companies are taking their operations offshore in order to achieve their business objectives. These companies often have strategic partners who require, as a condition of the partnership, that a certain percentage of the overall business must be accomplished in their home countries. This is both reasonable and unavoidable.

As the expansion in on-orbit requirements grows, so does the availability of launch options. Several new vehicles are currently striving to enter the market, providing options for launch from traditional locations such as Cape Canaveral, Vandenberg Air Force Base, French

Guyana, and Russia, or new locations such as Alaska, Virginia, the Caribbean or South Pacific. This expansion in capacity and flexibility provides many options to the commercial satellite market. Though it isn't reasonable to assume that all these vehicle and facility options will survive this highly charged environment, it does create the makings of a "buyers market". Satellite and constellation developers, looking for a launch services package will be able to shop around to find the best deal within a market no longer limited to a short list of heritage launch vehicles.

Many forces are converging to produce this rapid shift to a market orientation. Commercial companies started their move toward this reality in the early to mid 1990's. The government began their transition in earnest just within the past few years. In fact, with aerospace companies now racing to reconfigure their companies to function more effectively under commercial imperatives, the transition of the Air Force out of the primary customer and range financier role, will certainly have the greatest impact on the potential of this industry.

By stepping out of the launch services and maintenance business, the government has the opportunity to initiate the reduction in facility costs while increasing the stable of available vehicles. These changes will ultimately provide an environment which will allow the commercial launch services industry to thrive and grow at a rate equal to that of telecommunications industry driving it.

What Does the Future Hold?

The markets are indeed developing and operations do appear to be taking on an increasingly commercial appearance. But behind these very positive stories are several factors, which have altered the future of the commercial space market. Widely reported impacts as a result of launch failures, international competition, export controls, and investor reluctance to enter the market, dominated industry planning and development in 1999. It is now important to look more closely behind these events and see what these factors have produced.

The space-based communications boom expected as early as 1996 has yet to appear. The slow emergence of the satellite based mobile communications constellations has allowed terrestrial alternatives to assume control of domestic markets in the US, Europe, and Asia. In fact as we enter the new millenium the market potential for these services is largely unproven. Sales of the markets first platform, Iridium, have been disappointing, and the jury is still out on the next contender, Globalstar. Meanwhile telecommunications giants such as ATT, MCI-WorldComm, and Sprint have rushed to fill the gaps in the most lucrative portions of the market.

This same scenario is repeating itself in the internet services and high data rate applications. The still pending introduction of "Internet in the Sky" constellations has allowed terrestrial/cable alternatives to move into the market. Perhaps the most visible competitors are ATT with its recent acquisition of TCI, and Microsoft with the introduction of its' WebTV platform. These cable-based applications will quickly dominate the US domestic market well in advance of the introduction of the Internet in the Sky.

What do these subtle changes mean to the Space Launch Industry? Perhaps the most visible and immediate impact can be seen by looking at the five year launch projection for Vandenberg. Just three short years ago forecasters were predicting a virtual take over of

Vandenberg by the commercial community. Some projections showed a requirement to launch in excess of 400 commercial communications satellites between 2001 and 2006.

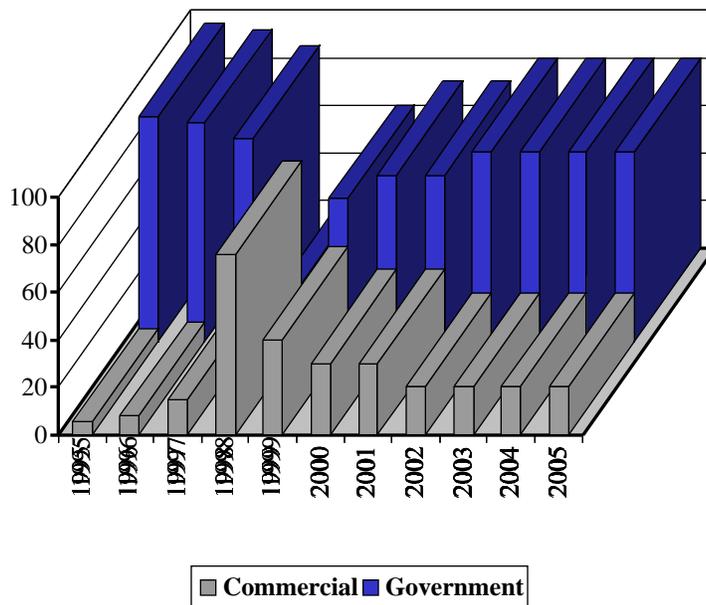
Confidence in the viability of this market was so strong, that its impact was central to the structure of the EELV competition. The Air Force and the two EELV winners, relied heavily on commercial projections to structure program plans, construction schedules, and formulate their financial decisions. Both competitors will invest heavily in their winning programs, not just because of the importance of the government contracts, but because of their expectation to reap profits from the projected boom in the commercial market.

Today the commercial manifest at Vandenberg is effectively erased. There is still a small number of purely commercial launches planned over the next five years, but clearly there has been a complete turn around in the market. Government launches, led most notably by a series of NASA missions, now dominate a significantly depleted West Coast manifest.

What Does This Say About the Future?

The changes in the market are very clear when you look to Vandenberg. This chart represents the percentage of Government versus Commercial launches from the West Coast, both historically and into the near future. The chart reflects the spike in commercial launches due to the Iridium launch campaign, but also shows a plunge toward pre-1998 levels.

This is a total reversal of the projections from just three years ago. What impact will this turn around have on the rest of our industry? At this point the future is still quite uncertain, but some very interesting questions need to be asked.



How will the changes, which have already impacted Vandenberg, affect the future of the market as a whole? Will a similar trend eventually affect commercial launches from the Cape? Clearly the commercial GEO market is very robust, but will the growth projections be realized? Already out-year planning shows a gradual decline in the number launch requirements while the availability of international launch alternatives is increasing.

Perhaps the most important question to ask is, what is the role and/or responsibility of our industry? Commercial companies operate under different imperatives than we are traditionally used to. The requirements of their markets are global and competitive, not national and political. They will take their business overseas if a better alternative exists, or since they are profit motivated and investor controlled, often they will decide to not fly at all. If the factors are not right, investors will move their money elsewhere.

As a result of rapid growth on the part of terrestrial alternatives, constellation developers are having to adjust their systems to target the available niches. As commercial companies restructure their constellations to meet the niches, are launch service providers prepared to restructure their services to meet the needs of their customers? Or will the business go elsewhere? We are already seeing small US based communications constellations working exclusively with foreign provides. They have completed the trades and have found their best solutions overseas. This is a trend which does not bode well for US Launch Service Providers or even the Government which had looked to share their costs with commercial markets on programs such as EELV.

Conclusion

Prior to 1999 our industry had great cause to be extremely optimistic, and certainly there is still every reason to believe the future is full of potential. But 1999 proved just how fragile we are and shined a very bright light on some cracks in our veneer.

Though our future is bright, we must look very closely at those cracks, repair them, and most importantly improve as a result. The forces now driving more than half are market have changed, they are commercial, they are profit motivated. If as an industry comprised of facility, launch vehicle, and range infrastructure providers, we can not meet the needs of our satellite customers quickly, efficiently, and cost effectively, they will buy the service elsewhere, or another market solution will rise to fill the gap.

The message here is, our competition is no longer with one another. It's no longer that simple or clear. We must now compete not just for launches, but for investors, partners, and entire markets.

The views expressed are those of Mr. Dominick Barry, not of Trident Data Systems or Veridian.